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ABSTRACT

In 1980, the Ohio Board of Regents (OBR) proposed several alternative funding formulas for the state's public-assisted institutions in anticipation of enrollment declines. Two alternatives, involving subsidy ceilings and free competition for students, were dismissed in favor of a third alternative involving a system of voluntary restraints in which Ohio public institutions would plan to maintain or decrease their enrollments in an orderly manner under several mandated restrictions. This alternative also included a modification of the existing enrollment-driven subsidy model that would permit money earned by growing institutions to be transferred to those in decline. As part of the review of these alternatives, enrollment and subsidy data were analyzed, revealing that: (1) there was a strong correlation between enrollment growth and the cost of education as measured by total institutional expenditures per full-time equivalent student (FTE); (2) growing institutions were on the whole operating at a lower instructional subsidy per FTE than declining institutions; and (3) there was already diversity in educational subsidies per FTE within the system with apportionments per FTE for universities ranging from \$1,710 to \$4,211, for community colleges from \$1,819 to \$2,641, and for technical colleges from \$1,772 to \$3,976. While it is difficult for the OBR to allow declining institutions to experience destructive financial problems, an argument for allowing the free market approach to prevail, at least in a modified form, could be made on the basis that growing institutions need more money while declining ones need less; and that if an institution's revenue fluctuates with enrollment, it will likely work to operate in a manner similar to profit-making corporations and be more responsive to student needs and more efficient and accountable in terms of staffing. An enrollment-driven state support system which includes a relief loan fund for institutions which face financial exigency is recommended. (RO)

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S T A T E S U P P O R T P R I O R I T I E S :**A T E S T C A S E I N O H I O**

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August 1986

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STATE SUPPORT PRIORITIES:
A TEST CASE IN OHIO

James L. Catanzaro and Daniel D. Savage
August, 1986

Like many state controlling boards, the Ohio Board of Regents (OBR) has been planning for enrollment decline in the state's postsecondary educational system for several years. Enrollment is a critical factor for public institutions in Ohio because the state has historically used a formula heavily influenced by FTE enrollment to determine state subsidy.

In 1980, OBR proposed several alternatives for the state's public-assisted institutions in decline. The first proposal would have the legislature adopt enrollment targets for each institution and thereby set subsidy ceilings. This would presumably distribute students throughout the system so that no school would be significantly impacted by decline. It was admitted that this alternative was at variance with student freedom of choice and that it was unlikely the legislature would pursue such a course.

A second alternative had Ohio institutions free to compete for students. Those schools which were perceived to meet student needs best would thrive; the others, of course, would not and would be adversely affected financially. In the worst case, some might suffer financial crises which could threaten the state's invested resources. This alternative was put aside because of the risk it posed to state investment and for obvious political considerations.

A third alternative, a system of "voluntary" restraints in which Ohio public institutions would plan to "maintain" or "decrease" their enrollments in an orderly manner, carried several mandated restrictions. Proposals for new dormitories, extended campuses, new academic programs, and other such efforts to

improve a given institution's enrollment at the expense of others would be proscribed. In addition, OBR suggested a modification of the existing enrollment-driven subsidy model in order to protect or "buffer" declining institutions from the effects of enrollment decline. Essentially money earned by growing institutions would be transferred to those in decline.

As a part of our review process, we examined recent enrollment and subsidy data from Ohio's public institutions and were interested to learn that there was a strong correlation ($R=.69$ for all public colleges and universities) between enrollment growth and the cost of education as measured by total institutional expenditures per full-time equivalent (FTE) students. (A full-time equivalent or FTE is derived by dividing the total number of credit hours by fifteen — the theoretical full-time load of one student.) Scattergrams and correlations are shown in Appendix A.

The data indicate that growing institutions are, on the whole, operating at a lower instructional subsidy per FTE than declining institutions. While certain institutions may receive greater subsidies per FTE because of their mix of courses (in Ohio some courses are subsidized at a higher rate), it is clear that declining institutions are forced to spread fixed costs over an increasingly shrinking number of students which results in higher costs per FTE.

An important effect of such a subsidy model which protects declining institutions from the immediate impact of enrollment decline by supporting fixed costs, however, is to transfer money that would have gone to growing institutions under a purely enrollment-driven model to declining or stable institutions. The result, shown graphically in Exhibit A, is that growing institutions are required to operate at lower subsidies per FTE than declining or stable institutions. Clearly the cost of expansion is not recognized in this alternative and there is no reward for meeting better the public's needs.

Exhibit D reveals that already there is diversity in educational subsidies per FIE within the system with apportionments per FTE for universities ranging from \$1,710 to \$4,211, community colleges from \$1,819 to \$2,641, and technical colleges from \$1,772 to \$3,976. Continuing to protect fixed costs will result in even greater diversity of expenditures per FTE.

From a public policy standpoint, there are problems associated with the traditional FTE subsidy model, especially in times of decline. Institutions will likely increase spending for marketing and student recruitment. Some may argue that that is a waste of resources. Schools may become overly trendy as they attempt to attract students. Declining institutions may face financial crises including reductions in workforce since a very high percentage of revenue will vary with enrollment while expenses are largely fixed (a problem shared by the vast majority of private organizations). Declining enrollments will result in poor utilization of campus capital resources as well. Finally, this method of funding is highly decentralized - some would argue overly decentralized - as individual institutions influence their claim on state resources by managing enrollment.

While it is certainly difficult for OBR, from a political standpoint, to allow declining institutions to experience destructive financial problems, there are considerable arguments on the side of allowing the free market approach to prevail, at least in a modified form. In general, growing institutions need more money and declining institutions need less. Protection of some, therefore, denies access to others. After all, it is unlikely that a student in the northern part of the state will attend a southern school simply to balance enrollments.

If an institution's revenue fluctuates with enrollment, it will likely work to operate in a manner similar to profit-making corporations. There will

be real incentives for good management, in other words. Institutions will have to listen to their students, research their needs, and provide programs which meet those needs. Overstaffing in schools in decline will have to be corrected, making the system far more efficient, accountable and student accessible.

* * * * *

OBR's policy of promoting a fixed-cost protection subsidy model represents a major departure from the traditional model in Ohio, and it is questionable public policy. Institutions which plan poorly, or who make bad decisions, will be protected from the consequences of those decisions. The fixed-cost subsidy model even creates incentives for managing an enrollment decline while building a larger physical plant. At the same time, rapidly growing institutions will be penalized by an increasingly lower subsidy per FTE. This problem becomes acute when these institutions have to increase full-time staff in order to service additional students.

The alternative of legislatively-set institutional subsidies would provide even greater incentives to decrease the level of service to students. It would reduce competition among campuses in influencing students' perceptions of quality. It would remove the few existing incentives for innovative programs aimed at potential service populations. Many institutions would likely decide to decrease their enrollments and save money while increasing their selectivity (and perhaps their school's prestige).

An instructional subsidy model which is sensitive to enrollment is the best tool we have for causing institutions to make real world decisions. Common sense dictates that revenues should vary in significant measure with enrollment. State tax dollars should support teaching and research, certainly not bad management. There are a wide range of options available to institutions

planning for declining enrollments. They can cut costs. They can build an endowment to provide a steady stream of supplementary income. They can attract students by merit through curriculum development. They can provide public service and research for additional funding.

In the meantime, state support should flow freely and rapidly to institutions that are being managed well: those which plan successfully for the future and build their community of service. We recommend, therefore, an enrollment-driven state support system which includes as well a relief loan fund for institutions which face financial exigency.

cj

8/12/86

10:11:10 LAKELAND COMMUNITY COLLEGE DEC VAX-11/750 VMS V4.2

APPENDIX A

DOWN:	INSTRUCTIONAL SUBSIDY 1985-86			ACROSS:			CHANGE IN ENROLLMENT 1979-85				
	-20.4	-11.1	-1.8	7.5	16.9	26.2	35.5	44.8	54.1	63.4	
3976.0	+*		I				I				3976.0
	I		I				I				
	I		I				I				
	I		I				I				
	I		I				I				
3754.2	+*		I				I				3754.2
	I		I				I				
	I		I				I				
	I		I				I				
	I		I				I				
3532.4	+*		I				I				3532.4
	I		I				I				
	I		I				I				
	I		I				I				
	I		I				I				
3310.6	+*		I				I				3310.6
	I		I				I				
	I		I				I				
	I		I				I				
	I		I				I				
3088.8	+*		I				I				3088.8
	I		I				I				
	I		I				I				
	I		I				I				
	I		I				I				
2867.0	+*		I				I				2867.0
	I		I				I				
	I		I				I				
	I		I				I				
	I		I				I				
2645.2	+*		I	*			I				2645.2
	I		I	*			I				
	I		I	*			I				
	I	*	I	*			I				
	I	*	I	*			I				
2423.4	+*		I	*			I				2423.4
	I		I	*			I				
	I		I	*			I				
	I		I	*			I				
	I		I	*			I				
2201.6	+*		I				I				2201.6
	I		I				I				
	I		I				I				
	I		I				I				
	I		I				I				
1979.8	+*		I				I				1979.8
	I		I				I				
	I		I				I				
	I		I				I				
	I		I				I				
1758.0	+*		I				I				1758.0
	I		I				I				
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1-AUG-86 OHIO SUBSIDY STUDY

PAGE 2

10:12:08 LAKELAND COMMUNITY COLLEGE DEC VAX-11/750 VMS V4.2

STATISTICS..

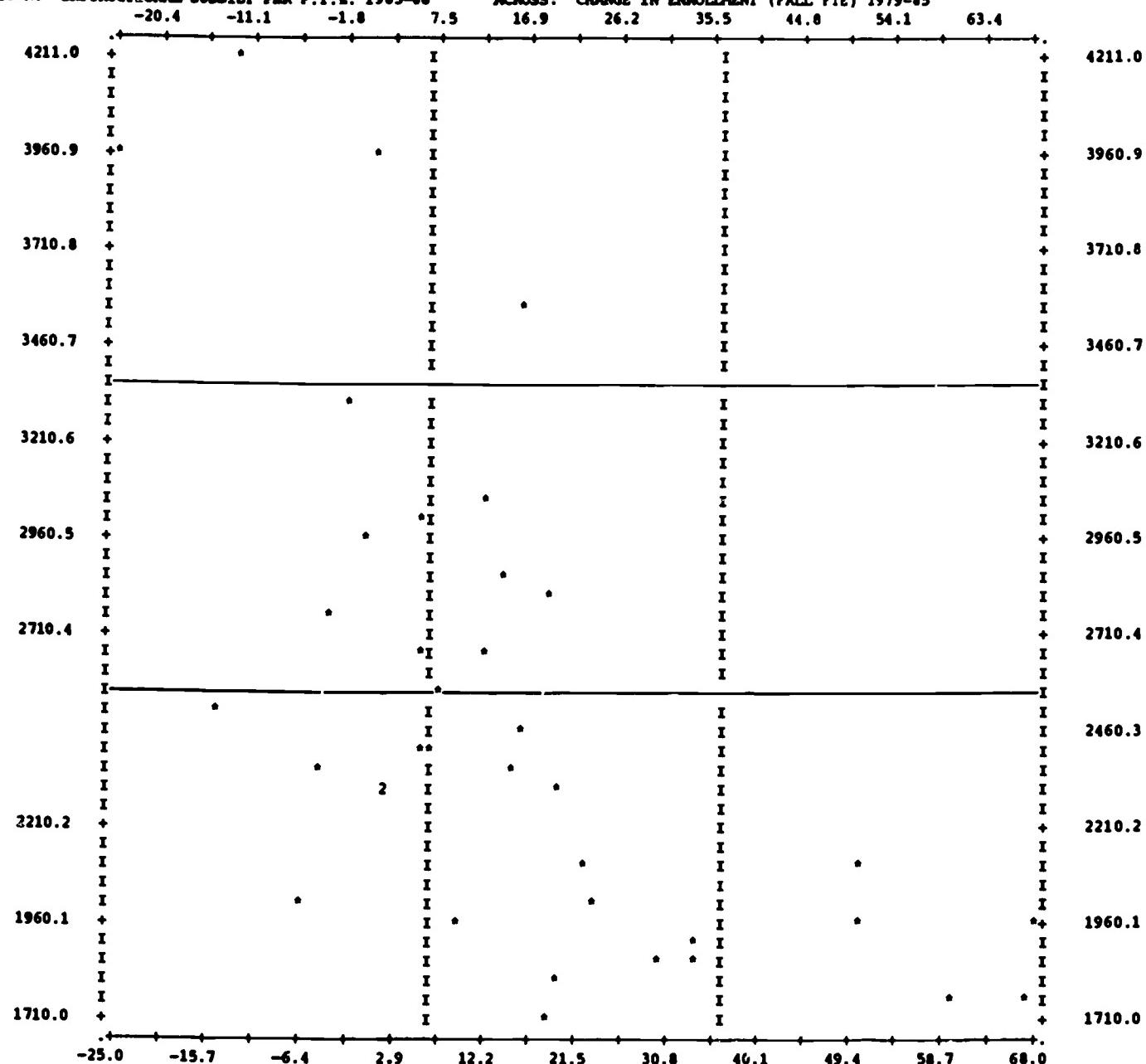
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STD ERR OF EST -	352.68612	INTERCEPT (A) -	2521.98919	SLOPE (B) -	-13.45763
PLOTTED VALUES -	25	EXCLUDED VALUES-	0	MISSING VALUES -	0

8 SPSSX DAB3.1
1-AUG-86 OHIO SUBSIDY STUDY ALL OHIO PUBLIC COLLEGES AND UNIVERSITIES

PAGE 1

09:50:23 LAKELAND COMMUNITY COLLEGE DEC VAX-11/750 VMS V4.2

BORN: INSTRUCTIONAL SUBSIDY PER F.T.E. 1985-86 ACROSS: CHANGE IN ENROLLMENT (FALL FTE) 1979-85



2-AUG-86 OHIO SUBSIDY STUDY

ALL COLLEGES AND UNIVERSITIES

PAGE 2

09:51:27 LAKELAND COMMUNITY COLLEGE

DEC VAX-11/750 VMS V4.2

STATISTICS..

CORRELATION (R)-	-0.62256	R SQUARED -	.38750	SIGNIFICANCE -	.00002
STD ERR OF EST -	519.92669	INTERCEPT (A) -	2793.61260	SLOPE (B) -	-18.73299
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12/20/85

OHIO BOARD OF REGENTS
INSTRUCTIONAL SUBSIDIES
FISCAL YEAR 1985-86

UNIVERSITIES	FY1986 EARNINGS	COMMUNITY COLLEGES	FY1984 EARNINGS
AKRON	58,158,068	CUYAHOGA	24,085,439
BOWLING GREEN	46,944,771	LAKELAND	7,859,478
CENTRAL	4,517,950	LORAIN	8,273,384
CINCINNATI	99,372,662	RIO GRANDE	2,122,395
CLEVELAND	42,932,114	SINCLAIR	16,653,958
KENT	52,977,563	EDISON	2,230,492
MIAMI	38,341,976	SHAWNEE	3,534,794
OHIO STATE	203,518,736	SOUTHERN	1,895,983
OHIO UNIV	50,088,847		
TOLEDO	47,901,051	SUB TOTAL	48,656,123
WRIGHT	42,859,579		
YOUNGSTOWN	32,969,269		
MCCT	12,067,377		
NEOUCOM	6,636,226		
SUB TOTAL	739,286,189		
BRANCHES	FY1986 EARNINGS	TECHNICAL COLLEGES	FY1984 EARNINGS
ASHTABULA	1,593,452	AGRICULTURAL	2,552,905
BELMONT	1,237,472	BELMONT	2,203,910
CHILLICOTHE	1,763,287	CENTRAL OHIO	2,046,984
CLERMONT	1,231,662	CINCINNATI	6,589,782
COLUMBIANA	1,730,725	CLARK	3,551,712
FIRELANDS	1,803,505	COLUMBUS	11,946,209
GEauga	347,140	HOCKING	6,125,009
HAMILTON	2,413,514	JEFFERSON	2,521,943
IRONTON	1,365,385	LIMA	3,386,086
LANCASTER	2,249,315	MARION	1,582,921
LIMA	1,655,878	MUSKINGUM	2,386,361
MANSFIELD	1,714,770	NORTH CENTRAL	3,064,023
MARION	1,190,873	NORTHWEST	1,290,353
MIDDLETOWN	2,422,952	OWENS-NORTH	6,416,604
NEWARK	1,433,637	OWENS-SOUTH	535,108
STARK	2,442,364	STARK	4,057,081
TRUMBULL	2,091,999	TERRA	4,516,724
TUSCARAWAS	1,411,652	WASHINGTON	1,454,774
WALTERS	3,675,680	SUB TOTAL	66,228,489
WAYNE	1,018,895		
WESTERN OHIO	1,232,971	GRAND TOTAL	912,099,909
ZANESVILLE	1,901,980		
SUB TOTAL	77,929,108		

APPENDIX C

INSTITUTIONAL ENROLLMENT ANALYSIS TOTAL FTE

UNIVERSITIES	1979-80	1985-86	% Change
Akron	17,869	20,307	14%
Bowling Green *	16,585	17,623	6%
Central State	2,224	2,642	19%
Cincinnati	27,058	23,598	-13%
Cleveland	13,170	12,872	-2%
Kent*	16,550	17,539	6%
Miami	16,370	16,632	2%
Ohio State*	50,890	51,480	1%
Ohio University*	14,555	16,361	12%
Toledo	14,357	17,143	19%
Wright	10,397	12,017	16%
Youngstown	12,479	11,959	-4%
MCOT	553	748	35%
NEOUCOM	184	437	N/A
University Total	213,141	221,358	4%
 Community Colleges			
Cuyahoga - M	5,645	4,613	-18%
Cuyahoga - W	5,944	5,626	-5%
Cuyahoga - E	2,022	2,617	29%
Lakeland	3,505	4,321	20%
Lorain	3,514	3,589	2%
Edison	930	1,207	30%
Shawnee	1,413	1,888	34%
Southern	639	718	12%
Sinclair	7,489	7,102	-5%
Rio Grande	727	1,093	50%
Community College Total	31,928	32,774	3%

12/10/85
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*Institution with statutory enrollment limit

TECHNICAL COLLEGES	1979-80	1985-86	% Change
Belmont	676	1,136	68%
Cincinnati	2,936	3,389	15%
Central Ohio	803	872	9%
Clark	1,653	1,408	-15%
Columbus	4,332	4,661	8%
Hocking	2,086	3,484	67%
Jefferson	980	1,044	7%
Lima	1,214	1,460	20%
Marion	640	790	23%
Muskingum	945	997	6%
North Central	1,073	1,243	16%
Northwest	510	682	34%
Owens-North	2,521	3,066	22%
Owens-South	0	198	N/A
Stark	1,434	2,290	60%
Terra	1,518	1,519	0%
Washington	460	688	50%
Agriculture	861	642	-25%
Technical Total	24,642	29,569	20%

BRANCHES	1979-80	1985-86	% Change
Ashtabula	702	539	-23%
Belmont	502	568	13%
Chillicothe	630	760	21%
Clermont	677	624	-8%
Columbiana	702	835	19%
Firelands	795	718	-10%
Geauga	134	124	-7%
Hamilton	932	961	3%
Ironton	499	624	25%
Lancaster	923	886	-4%
Lima	755	984	30%
Mansfield	966	902	-7%
Marion	616	686	11%
Middletown	1,089	1,013	-7%
Newark	806	-	-50%
Stark	1,216	1,306	-17%
Trumbull	1,075	987	-8%
Tuscarawas	605	603	0%
Walter	2,024	1,777	-12%
Wayne	426	532	25%
Western Ohio	421	569	35%
Zanesville	689	775	12%
Branch Sub-Total	17,184	17,242	0%
Off-Campus Total	4,447	4,093	-8%
Grand Total	291,342	305,036	5%

EXHIBIT D
INSTRUCTIONAL SUBSIDY BY FTE

<u>Universities</u>	Total Instructional Subsidy 1985-6	FTE <u>1985/6</u>	Subs/FTE <u>1985/6</u>
Akron	58,158,068	20,307	2,864
Bowling Green	46,944,771	17,623	2,664
Central	4,517,950	2,642	1,710
Cincinnati	99,372,662	23,598	4,211
Cleveland	42,932,114	12,872	3,335
Kent	52,977,563	17,539	3,021
Miami	38,341,976	16,632	2,305
Ohio State	203,518,736	51,480	3,953
Ohio University	50,088,847	16,361	3,061
Toledo	47,901,051	17,143	2,794
Wright	42,859,579	12,017	3,567
Youngstown	32,969,269	11,959	2,757
TOTALS	720,582,586	220,173	3,273

<u>Community Colleges</u>	Total Instructional Subsidy 1985-6	FTE <u>1985/6</u>	Subs/FTE <u>1985/6</u>
Cuyahoga	26,085,639	12,856	2,029
Lakeland	7,859,478	4,321	1,819
Lorain	8,273,384	3,589	2,305
Edison	2,230,492	1,207	1,848
Rio Grande	2,122,395	1,093	1,942
Sinclair	16,653,958	7,102	2,345
Shawnee	3,534,794	1,888	1,872
Southern	1,895,983	718	2,641
TOTALS	68,656,123	32,774	2,095

	<u>Total Instructional Subsidy 1985-6</u>	<u>FTE</u>	<u>Subs/FTE</u>
	<u>1985/6</u>	<u>1985/6</u>	
Technical Colleges			
Agricultural	2,552,905	642	3,976
Belmont	2,203,910	1,136	1,940
Central Ohio	2,046,984	872	2,347
Cincinnati	6,589,782	3,389	1,944
Clark	3,551,712	1,408	2,523
Columbus	11,946,209	4,661	2,563
Hocking	6,125,009	3,484	1,758
Jefferson	2,521,943	1,044	2,416
Lima	3,386,086	1,450	2,319
Marion	1,582,921	790	2,004
Muskingham	2,386,361	997	2,394
North Central	3,064,023	1,243	2,465
Northwest	1,290,353	682	1,892
Owens-North	6,416,604	3,066	2,093
Owens-South	535,108	198	2,703
Stark	4,057,081	2,290	1,772
Terra	4,516,724	1,519	2,973
Washington	1,454,774	688	2,114
TOTALS	66,228,489	29,569	2,240

	<u>Total Instructional Subsidy 1985-6</u>	<u>FTE</u>	<u>Subs/FTE</u>
	<u>1985/6</u>	<u>1985/6</u>	
Branches			
Ashtabula	1,593,452	539	2,956
Belmont	1,237,472	568	2,179
Chillicothe	1,763,287	760	2,320
Clermont	1,231,662	624	1,974
Columbiana	1,730,725	835	2,073
Firelands	1,803,505	718	2,512
Geauga	347,140	124	2,800
Hamilton	2,413,514	961	2,511
Ironton	1,365,385	624	2,188
Lancaster	2,249,315	886	2,539
Lima	1,655,878	984	1,683
Mansfield	1,714,770	902	1,901
Marion	1,190,873	686	1,736
Middletown	2,422,952	1,013	2,392
Newark	1,433,637	769	1,864
Stark	2,442,364	1,006	2,428
Trumbull	2,091,999	987	2,120
Tuscarawas	1,411,652	603	2,341
Walters	1,018,895	1,777	573
Wayne	1,018,895	532	1,915
Western Ohio	1,232,971	569	2,167
Zanesville	1,901,980	775	2,454
TOTALS	35,272,323	17,242	2,046